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NESTERIN, M.F.; NARODETSKAYA, R.V.; SHLYGIN, G.K., prof.

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1. Laboratoriya fiziologii i patologii pishchevareniya (zav.-prof. G.K. Shlygin) Instituta pitaniya AMN SSSR, Moskva.

YANKOVSKIY, A. K., SHLYGIN, M. I.,
LITVIN, G. A.

USSR (600)

Railroads - Switches

Planning railroad switches, Trudy TSNII MPS No. 27, 1948.

9. Monthly List of Russian Accessions, Library of Congress, October 1952, Uncl.

SHLYGINA, V.F.

Formation of the underground waters of alluvial cones on the piedmont plain of the Trans-Ili Alatau. Trudy Inst. geol. nauk AN Kazakh.SSR no.14:64-91 '65. (MIRA 19:1)

SHIVGIN, V.V.

Standardization in a plant. Standartizatsiia 24 no.6: 45-46 Je '60. (MIRA 13:7)
(Baranchinskiy--Electric industries)

34164
S/196/62/000/002/016/023
E194/E155

18.1110

AUTHORS: Nakhalov, V.A., Shlygin, V.V., and Moiseyenko, V.S.

TITLE: The coefficient of linear expansion of steel 1Х18Н12Т (1Kh18N12T)

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.2, 1962, 5, abstract 2G 41. (Elektr stantsii 32-no.7, 1961, 26-27).

TEXT: An experimental study was made of the coefficient of linear expansion on specimens of steel 1Kh18N12T cut from industrial steam piping. Currently available published data for this steel are apparently too high by 10%, because at working temperatures the actual displacements of steam lines were very different from the calculated values. The new values of mean coefficient of linear expansion (α) are as follows. These values are about 11% lower than those given in handbooks. As the equipment used for the measurements was not entirely reliable the authors recommend further investigations.

Card 1/2

34164

The coefficient of linear expansion... S/196/62/000/002/016/023
E194/E155

t, °C	20-100	20-200	20-300	20-400	20-500	20-600	20-650
$\alpha \cdot 10^6$ 1/°C	17.12	18.33	18.57	18.60	18.64	19.22	19.52

3 literature references.

[Abstractor's note: Complete translation.]

Card 2/2

SHLYGIN, Yevgeniy Dmitriyevich; SHAGIROVA, I.M., red.

[Brief course in the geology of the U.S.S.R.] Kratkii kurs geologii SSSR. Izd. 2. Moskva, Vysshaia shkola, 1964. 363 p. (MIRA 17:11)

SHLYGIN, Ye. D.; MUKANOV, K. M.; GRISHIN, V. M.; MAGOMEDOV, S. G.

Supergene concentrations of gold in the gold ore deposits of northern Kazakhstan. Vest. AN Kazakh. SSR. 19 no.8:43-46 Ag '64. (MIRA 17:7)

YANSHIN, A.L.; PETRUSHEVSKIY, B.A.; ALEKSANDROVA, M.I.; BORSUK, B.I.; VOLIN, A.V.; ZUBKOVSKAYA, I.M.; YAKOVLEV, D.I.; BER, A.G.; BOROVIKOV, L.I.; BOYTSOVA, Ye.P.; OVECHKIN, N.K.; BESPALOV, V.F.; SHLYGIN, Ye.D.; SPERANSKIY, B.F.; KHAKHLOV, V.A.; RAGOZIN, L.A.; DITMAR, V.G.; GORSKIY, I.I., red.; KASSIN, N.G., red.; FOMICHEV, V.D., red.; DZEVANOVSKIY, Yu.K., red.; CHIKHACHEV, P.K., red.; KOMISHAN, I.S., red.; DASHKOVA, A.D., red.; VODOLAGINA, S., tekhn. red.; VDOVINA, M.P., tekhn. red.

[Geological map of the U.S.S.R., scale 1:1,000,000] Geologicheskaia karta SSSR, masshtab 1:1,000,000. [Explanatory notes to accompany sheet] Ob"iasnitel'naia zapiska k listu. _____ L-40 [Emba] (Emba). 1949. 56 p. _____ L-41 [Kzyl-Orda] (Kzyl-Orda). 1946. 20 p. _____ L-42 [Karsakpay] (Karsakpai). 1949. 42 p. _____ M-41 [Turgay] (Turgai). 1948. 28 p. _____ M-43 [Karaganda] (Karaganda). 1947. 37 p. _____ N-42 [Petropavlovsk] (Petropavlovsk) 1947. 27 p. _____ N-44 [Novosibirsk] (Novosibirsk) 1948. 33 p. _____ O-45 [Tomsk] (Tomsk). 1949. 26 p. _____ O-49 [Kirensk] (Kirensk). 1947. 40 p. Moskva, Gos. izd-vo geol. lit-ry. (MIRA 11:8)

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(Geology--Maps)

SHLYGIN, YE. D.

21080 Borukayev, R.A. i Shlygin, Ye. D. Ucheny y, inzhener, organizator (K 50-letiyu so dlya Rozheniya prezidenta Akad. Nauk Kazakh. SSR K.I. Satpayeua) Vestnik Akad. Nauk Kazakh, SSR, 1949, No. 4, S. 24-33--Bibliogr<<Trudy K.I. Satpayeva,>>187 Nazv.

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949

SHLYGIN, YE. D.

20582 SHLYGIN, YE. D. Nekotoryye voprosy, svyzannyye s izucheniyem geologii severnogo kazakhstana. Izvestiya akad. nauk kazakh. SSR, No. 70, Seriya geol, vyp. 11, 1949, s. 15-20. Rezyume na kazakh. yaz.

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva - 1949

BYKOVA, M.S.; KUSHEV, G.L.; MEDOYEV, G.Ts.; SHLYGIN, Ye.D.; PETRENKO, A.A.; RITENBERG, M.I.

Concerning A.A.Petrenko and M.I.Ritenberg's article "Conditions of the formation and the age of carboniferous deposits of the Karaganda series in the Karaganda Basin." Izv.AN SSSR. Ser.geol. no.4:125-131 Jl-Ag '53. (MLRA 6:8)

(Karaganda Basin--Geology) (Geology--Karaganda Basin)
(Petrenko, A.A.) (Ritenberg, M.I.)

SHLYGIN, E. D.

USSR/ Geology

Card 1/1 Pub. 123 - 9/11

Authors : Shlygin, E. D.; Mukhamedzhanov, S. M.; and Reysgof, G. A.

Title : About the tectonics of the Meso-Cenozoic era formations of the northern Kazakh folding areas

Periodical : Vest. AN Kaz. SSR 2, 79 - 82, Feb 1955

Abstract : Geological data are presented regarding the tectonics of the Meso-Cenozoic era formations of the northern Kazakh folding areas. Drawing.

Institution: .....

Presented by: Academician K. I. Satpayev

SHLYGIN, Ye. D.

15-1957-7-8951

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7, pp 9-10

AUTHOR: Shlygin, Ye. D., Koroleva, M. N.

TITLE: Ordovician Type Sections and Paleogeography of the Stepnyak Region, Northern Kazakhstan (Tipy stratigraficheskikh razrezov i paleogeografiya ordovika Pristepnyakovskogo rayona Severnogo Kazakhstana)

PERIODICAL: Izv. AN KazSSR, ser. geol., 1956, Nr 22, pp 82-91

ABSTRACT: Data are given on the stratigraphy of the Ordovician rocks which border the "Kokchetav block" on the east. Here Llandeilian rocks rest on the Precambrian metamorphic formations and on comparatively weakly metamorphosed, unfossiliferous deposits provisionally referred to Proterozoic-Ordovician. They are predominantly clastic and volcanic formations--siltstones, tuff-sandstones, pebble conglomerates, tuffs, and porphyrites. Limestones occur in the upper part

Card 1/3

Ordovician Type Sections and Paleogeography of the Stepnyak Region, Northern Kazakhstan (Cont.)

of these deposits with Lonchodomas cf. rostratus (Sars.), L. latus sp. nov., L. karakanensis Web., and Asaphus knyrkoi Schm. On the southwest, along the Achaly and Konur Rivers, graptolites characteristic of the Llandeilian occur in rocks which, in the author's opinion, are similar to those described above. Overlying rocks of the Caradocian are divided into 3 horizons--Zhulubayskiy, Lower Maylisorskiy, and Upper Maylisorskiy. The Zhulubayskiy horizon is chiefly clastic rocks with thin layers of porphyrites and tuffs. Pseudoclimacograptus scharenbergi (Lapw.) is found in the clastic formations; this form is peculiar to the upper part of the Llandeilian and the lower part of the Caradocian. The Lower Maylisorskiy horizon consists of various predominantly basic porphyrites, alternating with tuffs and individual layers of sedimentary rock. In this horizon are found Orthograptus cf. pageanus (Lapw.), O. sp., Trinodus glabratus var. kirgizica Web., Illaenus longus sp. nov., I. cf. linnarssoni Holm, Onchonotus korejscho sp. nov., Metopolichas anderkensis Web., and Sphaerexochus

Ordovician Type Sections and Paleogeography of the Stepnyak Region, Northern Kazakhstan (Cont.) 15-1957-7-8951

conusoides sp. nov. The Upper Maylisorskiy horizon consists of limestone grading upward into shale and sandstone. In these deposits were found Endoceras cf. megastoma Eichw., Geisonoceras sp., Nomotelus calvus sp. nov., Harpes costatus Ang., Remopleurides pisiformis Web., R. giganteus sp. nov., Illaenus linnarssoni Holm, I. oviformis Warb., Brontus romanovskii Web., Amphilichas koksorensis sp. nov., A. sniatkovi Web., Sphaerexochus hisingeri Warb., Pliomera minimus sp. nov., P. cf. iliensis Kor., Cybele weberi Kor., and Orthograptus (Rectograptus) almatyensis Kell. On the basis of a study of these rocks it is established that at the beginning of the Ordovician (before the Llandeilian) this region was dry land. Transgression began in the Llandeilian, embracing a region bounded on the west by the Kokchetavskiy block and on the east by the uplift which is marked farther south by the Stalinskiy mine.

Card 3/3

N. F. Nikitin

SHLYGIN, Ye.D.

Basic features of the geology of northern Tien Shan. Biul. Sov. po seism. no.3:41-42 '57. (MIRA 11:5)
(Tien Shan--Geology)

SHLYGIN, Ye. D.

SATPAYEV, K.I.; BORUKAYEV, R.A.; AKHMEDSAFIN, U.M.; BOK, I.I.; KUSHEV, G.L.; SERGIYEV, N.G.; SHLYGIN, Ye.D.; SHCHERBA, G.N.; MONICH, V.K.; LOMONOVICH, I.I.; LAVROV, V.V.; MEDOYEV, G.TS.; NOVOKHATSKIY, I.P.; BARBOT-DE-MARNI, A.V.; GALITSKIY, V.V.; KOLOTILIN, N.F.; ZHILINSKIY, G.B.; KAYUPOV, A.K.; KAZANLI, D.N .; SATPAYEVA, T.A.; ABDULKABIROVA, M.A.; GAZIZOVA, K.S.; VEYTS, B.I.; KHAYRUTDINOV, D.Kh.; MUKHAMEDZHANOV, S.M.; CHOLPANKULOV, T.Ch.; PARSHIN, A.V.; TAZHIBAYEVA, P.T.; YANULOVA, M.K.; BYKOVA, M.S.; VOLKOV, A.N.; BOLGOV, G.N.; MITRYAYEVA, N.M.; CHOKABAYEV, S.Ye.; KUNAYEV, D.S.; YARENSKAYA, M.A.; REBROVA, T.I.

Tireless explorer of the depths of the earth's crust; on the 65th birthday and 40th anniversary of the scientific engineering activities of Academician M.P. Rusakov. Vest. AN Kazakh. SSR 13 no.12:96-97 D '57. (MIRA 11:1)

(Rusakov, Mikhail Petrovich, 1892-)

BORUKAYEV, R.A., akad.; BORSUK, B.I.; KELLER, B.M.; AYTALIYEV, Zh.A.; BOGDANOV, A.A.; BUBLICHENKO, N.L.; BYKOVA, M.S.; GALITSKIY, V.V.; MEDOYEV, G.Ts.; MYAGKOV, V.M.; ORLOV, I.V., RUKAVISHNIKOVA, T.B.; SHLYGIN, Ye.D.; NIKITIN, I.F., uchenyy sekretar'; SENKEVICH, M.A., uchenyy sekretar'.

[Resolutions of the Conference on the Unification of Stratigraphic Charts of the Pre-Paleozoic and Paleozoic of Eastern Kazakhstan] Rezoliutsiia po unifikatsii stratigraficheskikh skhem dopaleozoia i paleozoia vostochnogo Kazakhstana. Alma-Ata, Izd-vo Akad. nauk Kazakhskoi SSR, 1958. 36 p. (MIRA 11:12)

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(Continued on next card)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549720014-8"

BORUKAYEV, R.A.---(continued) Card 2.
Lomonosova (for Bogdanov). 7. Altayskiy gorno-metallurgicheskiy nauchno-issledovatel'skiy institut Akademii nauk Kazakhskoy SSR (for Bublichenko). 8. Institut geologicheskikh nauk Akademii nauk Kazakhskoy SSR (for Bykova, Galitskiy, Medoyev, Shlygin, Nikitin). 9. TSentral'no-Kazakhstanskoye geologicheskoye upravleniye (for Orlov). 10. Yuzhno-Kazakhstanskoye geologicheskoye upravleniye (for Rukavishnikova, Senkevich).
(Kazakhstan--Geology, Stratigraphic)

SHLYGIN, Yevgeniy Dmitriyevich; NALIVKIN, D.V., akademik, retsenzent; SOKOLOV, D.S., dotsent, retsenzent; KHAIN, V.Ye., red.; MIRZOYEVA, M.D., red.izd-va; GUROVA, O.A., tekhn.red.

[Short course in the geology of the U.S.S.R.] Kratkii kurs geologii SSSR. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geologii i okhrane nedr, 1959. 270 p. (MIRA 13:1)

1. Kafedra istoricheskoy geologii Moskovskogo geologorazvedochnogo instituta (for Sokolov).
(Geology)

SHLYGIN, Ye.D.; ZHUKOV, M.A.; KOPYATKEVICH, R.A.

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(Kokchetav Province--Geology)

BANDALETOV, S.M.; BESPALOV, V.F.; BOGATYREV, A.S.; BOK, I.I.; GALITSKIY, V.V.; ZHILINSKIY, G.B., IVSHIN, N.K.; KAZANLI, D.N.; KAYUPOV, A.K.; KONEV, A.K.; KUSHEV, G.L.; LYAPICHEV, G.F.; MEDOYEV, G.TS.; MONICH, V.K.; MYAGKOV, V.M.; NIKITIN, I.F.; NOVOKHATSKIY, I.P.; SATPAYEV, K.I.; SHLYGIN, Ye.D.; SHCHERBA, G.N.

Eminent geologist of Kazakhstan. Vest. AN Kazakh.SSR 15 no.1: 94-95 Ja '59. (MIRA 12:1)
(Borukaev, Ramazan Aslanbekovich, 1899-)

AVROV, P.Ya.; AYTALIYEV, Zh. A.; AUEZOV, M.O.; AKHMEDSAFIN, U.M.; BATISHCHEV-TARASOV, S.D.; BAZANOVA, N.U.; BAISHEV, S.B.; BAYKONUROV, A.B.; BEKTUROV, A.B.; BOGATYREV, A.S.; BOK, I.I.; BORUKAYEV, R.A.; BULICH[illegible], N.L.; BYKOVA, M.S.; ZHILINSKIY, G.B.; ZYKOV, D.A.; IVANKIN, P.F.; KAZANLI, D.N.; KAYUPOV, A.K.; KENESBAYEV, S.K.; KOLOTILIN, N.F.; KUNAYEV, D.A.; KUSHEV, G.L.; L[illegible], A.V.; MASHANOV, O.Zh.; MEDOV[illegible], G.TS.; MONICH, V.K.; MUKANOV, S.; MUSREPOV, G.; MUKHAMEDZHANOV, S.M.; PARSHIN, A.V.; POPROVSKIY, S.N.; POLOSUKHIN, A.P.; RUSAKOV, M.P.; SERGIYEV, N.G.; SEYFULLIN, S.Sh.; TAZHIBAYEV, P.T.; YESENKOV, V.G.; SHLYGIN, Ye.D.; SHCHERBA, G.N.; CHOKIN, Sh.Ch.; CHOLPANKULOV, T.Ch.

Sixtieth birthday of Academician Kanysh Imantaevich Satpaev. Vest. AN Kaz.SSR 15 no.4:58-61 Ap '59. (MIRA 12:7)
(Satpaev, Kanysh Imantaevich, 1899-)

BORUKAYEV, R.A., otv.red.; AYTALIYEV, Zh.A., red.; BUBLICHENKO, N.L., red.; BYKOVA, M.S., red.; GALITSKIY, V.V., red.; MEDOYEV, G.TS., red.; NIKITIN, I.F., red.; RUKAVISHNIKOVA, T.B., red.; SENKEVICH, M.A., red.; SHLYGIN, Ye.D., red.; SEMENOV, M.N., red.; PROKHOROV, V.P., tekhn.red.

[Transactions of the Conference on the Unification of Stratigraphic Scales of the Pre-Paleozoic and Paleozoic in Eastern Kazakhstan. Alma-Ata, 1958] Trudy Soveshchaniia po unifikatsii stratigraficheskikh skhem dopaleozoia i paleozoia Vostochnogo Kazakhstana. Alma-Ata, Izd-vo Akad.nauk Kazakhskoi SSR. Vol.2. [Devonian, Carboniferous, Permian] Devon, karbon, perm'. 1960. 253 p. (MIRA 13:8)

1. Soveshchaniye po unifikatsii stratigraficheskikh skhem dopaleozoia i paleozoia Vostochnogo Kazakhstana. Alma-Ata, 1958. 2. Altayskiy gornometallurgicheskiy nauchno-issledovatel'skiy institut AN KazSSR (for Bublichenko). 3. Institut geologicheskikh nauk AN KazSSR (for Bykova). 4. Yuzhno-Kazakhstanskoye geologicheskoye upravleniye (for Senkevich).
(Kazakhstan--Geology, Stratigraphic)

BORUKAYEV, R.A., akademik, otv.red.; AYTALIYEV, Zh.A., red.; BUBLICHENKO, N.L., red.; BYKOVA, M.S., red.; GALITSKIY, V.V., red.; IVSHIN, N.K., red.; MEDOYEV, G.TS., red.; NIKITIN, I.F., red.; RUKAVISHNIKOVA, T.B., red.; SENKEVICH, M.A., red.; SHLYGIN, Ye.D., red.; SEMENOV, M.N., red.; PROKHOROV, V.P., tekhn.red.

[Transactions of the conference on the unification of stratigraphic diagrams of the Pre-Paleozoic and Paleozoic in eastern Kazakhstan, Alma-Ata, May 12-17, 1958.] Trudy Soveshchaniya po unifikatsii stratigraficheskikh skhem dopaleozoya i paleozoya Vostochnogo Kazakhstana. Alma-Ata. Izd-vo Akad.nauk Kazakhskoi SSR. Vol.1. [Pre-Paleozoic, Cambrian, Ordovician, Silurian] Dopaleozoi, kembrii, ordovik, silur. 1960. 296 p. (MIRA 13:6)

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(Kazakhstan--Geology, Stratigraphic)

SHLYGIN, Ye.D., otv.red.; SATPAYEV, K.I., red.; MEDOYEV, G.TS., red.; KUZNETSOV, Yu.N., red.; ZAPLAVNOV, O.V., red.; ALFEROVA, P.F., tekhn.red.

[Basic ideas of N.G.Kassin on the geology of Kazakhstan; collected studies dedicated to the memory of Nikolai Grigor'yevich Kassin, an Academician of the Academy of Sciences of the Kazakh S.S.R.] Osnovnye idei N.G.Kassina v geologii Kazakhstana; sbornik posviashchen svetloi pamiati akademika AN KazSSR Nikolaia Grigor'evicha Kassina. Alma-Ata, 1960. 420 p. (MIRA 14:4)

1. Akademiya nauk Kazakhskoy SSR, Alma-Ata.
(Kazakhstan--Geology)
(Kassin, Nikolai Grigor'evich, 1885-1949)

SHLYGIN, Ye.D., LI, A.B.

Tectonic structure of Mesocenozoic depressions of Siberia and the Far East. Vest.AN Kazakh.SSR 16 no.4: 79-80 Ap '60. (MIRA 13:7)
(Siberia--Geology, Stragigraphic)

BOBKOV, V.F.; SHLYGIN, Ye.D.

Age of nodular ores of the Sokolovka deposit. Vest. AN Kazakh.SSR 16 no.6:68-70 Je '60. (MIRA 13:7)
(Sokolovka region(Kazakhstan)--Ore deposits)

ANKINOVICH, Stepan Gerasimovich; SHLYGIN, Ye.D., prof., doktor geologo-mineralog. nauk, otv. red.; RZHONDKOVSKAYA, L.S., red.; ALFEROVA, P.F., tekhn. red.

[Lower Paleozoic of the vanadium-bearing basin in the northern Tien-Shan and the western margin of central Kazakhstan] Nizhnii paleozoi Vanadienosnogo basseina Severnogo Tien'-Shania i zapadnoi okrainy TSentral'nogo Kazakhstana. Alma-Ata, Izd-vo Akad. nauk Kazakhskoi SSR. Pt.1. 1961. 270 p. (MIRA 14:9)

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(Kazakhstan—Vanadium) (Tien Shan—Vanadium)

ABDULKABIROVA, M.A.; ALEKSANDROVA, M.I.; AFONICHEV, N.A.; BANDALETOV, S.M.; BASPALOV, V.F.; BOGDANOV, A.A.; BOKOVIKOV, L.I.; BORSUK, B.I.; BORUKAYEV, R.A.; BUVALKIN, A.K.; BYKOVA, M.S.; DVORTSOVA, K.I.; DEMBO, T.M.; ZHUKOV, M.A.; ZVONTSOV, V.S.; IVSHIN, N.K.; KOPYATKEVICH, R.A.; KOSTENKO, N.N.; KUMPAN, A.S.; KURDYUKOV, K.V.; LAVROV, V.V.; LYAPICHEV, G.F.; MAZURKEVICH, M.V.; MIKHAYLOV, A.Ye.; MIKHAYLOV, N.P.; MYCHNIK, M.B.; NIDLENKO, Ye.N.; NIKITIN, I.F.; NIKIFOROVA, K.V.; NIKOLAYEV, N.I.; PUPYSHEV, N.A.; RASKATOV, G.I.; RENGARTEN, P.A.; SAVICHEVA, A.Ye.; SALIN, B.A.; SEVRYUGIN, N.A.; SEMENOV, A.I.; CHERNYAKHOVSKIY, A.G.; CHUYKOVA, V.G.; SHLYGIN, Ye.D.; SHUL'GA, V.M.; EL'GER, E.S.; YAGOVKIN, V.I.; NALIVKIN, D.V., akademik, red.; PERMINOV, S.V., red.; MAKUSHIN, V.A., tekhn.red.

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(Kazakhstan--Geology)

MUKHAMEDZHANOV, Serk Mukhamedzhanovich; ISABAYEV, Turlybay Tadzhibayevich; KABIYEV, Fayzulla Kabiyevich; MURTAZIN, Zhamshit Vakhitovich; SHLYGIN, Ye.D., doktor geol.-miner. nauk, prof., otv. red.; RZHONDKOVSKAYA, L.S., red.

[Underground waters of the Tarbagatay Range and its piedmont plains] Podzemnye vody khrebta Tarbagatai i ego ravninnykh predgorii. Alma-Ata, Izd-vo "Nauka" Kazakhskoi SSR, 1965. 147 p. (MIRA 18:9)

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USSR / Microbiology. Microbes, Pathogenic to Man and Animals. General Problems. F

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 19545

Author : Shlygina, K. N.
Inst : Not given
Title : The Study of Epicutaneous Immunization with Live Associated Brucella-Tularemia Vaccine in an Experiment

Orig Pub : Zh. mikrobiol., epidemiol. i immunobiol., 1958, No 2, 3-7

Abstract : Guinea pigs were immunized epicutaneously with a liquid associated vaccine, which contained 50 billion brucella bacteria and 1 billion or 10 million tularemia bacteria in 1 ml of the vaccine. It was demonstrated that the application of this vaccine caused

Card 1/3 Inst. Epidemiology, Microbiology im Gamaleya AMS USSR

USSR / Microbiology. Microbes, Pathogenic to Man and Animals. General Problems. F

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 19545

the formation of immunity to tularemia. In 1 month, the immunity intensity did not differ from its intensity in animals inoculated with a single tularemia vaccine; in 5 months, it was somewhat lower. The application of associated vaccine also did not hinder the formation of antibodies and allergination in the organism, caused by tularemia antigens. The associated vaccine, containing 1 billion tularemia bacteria in 1 ml of the vaccine, caused more active formation of antibodies and a somewhat greater survival of the animals than the vaccine, containing 10 million tularemia bacteria in 1 ml of the vaccine. Epicutaneous immunization of the guinea pigs

Card 2/3

SHLYGINA, K.N.

Variability of Listeria. Zhur.mikrobiol.epid. i immun. 30 no.2:56-61 F '59. (MIRA 12:3)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

(LISTERIA,
variability (Rus))

OLSUF'YEV, N.G.; PETROV, V.G.; SHLYGINA, K.N.

Detection of Erysipelothrix and Listeria in stream water.
Zhur.mikrobiol.epid. i immun. 30 no.3:89-94 Mr '59.
(MIRA 12:5)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

(WATER SUPPLY, microbiology,
Erysipelothrix rhusiopathiae & Listeria in spring water (Rus))
(ERYSIPELOTHRIX,
rhusiopathiae in spring water (Rus))
(LISTERIA,
in spring water (Rus))

SHLYGINA, K.N.

Typing of Listeria strains isolated in the U.S.S.R. Zhur. mikrobiol., epid. i immun. 40 no. 8:90-94 Ag '63. (MIRA 17:9)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

CHAPLINSKIY, M.B.; SVERDLOV, A.K.; SHILYGINA, K.N.; BELYAYEV, P.A.; DEMCHUK, T.Ya.; VINOGRADOVA, P.A.; TSVIRKO, A.B.; VAGIN, Ye.A.; AGAFONOV, A.I.

Outbreak of an anginous form of erysipeloid. Zhur. mikrobiol., epid. i immun. 41 no.12:119 D '64. (MIRA 18:3)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

EXCERPTA MEDICA Sec 17 Vol 5/10 Public Health Oct 59

3138. DETERMINATION OF DUST IN THE ATMOSPHERIC AIR WITH AN ELECTROPHOTOCOLORIMETER (Russian text) - Rychter E.V. and Shlygina N.V. - GIG.I SAN. 1958,9 (18-22) Graphs 2 Tables 3

In this method samples of air are collected with a universal liquid absorber, containing a mixture of alcohol and glycerin in the proportion of 1:1. The absorber is filled with 10 ml. of the absorbent liquid and the air is sucked through at a rate of 20 l./min. The dynamic investigations are carried out on stationary apparatus. The distribution of dust in the air at different distances from the sources of pollution may be traced with a portable apparatus, which is described briefly in the article. The content of dust is determined by means of an electrophotocolorimeter. This method has the advantage over the ordinary weight method, in that the time required for collection of the sample may be shortened from several hours to 5-10 min.

Perm' Oblast Sanitary-Epidemiology station.

SHLYGINA, V.F.; MOROZOVA, A.M.

Elastic drive of artesian waters in the piedmont plain of the Trans-Ili Alatau. Izv. AN Kazakh. SSR. Ser. geol. nauk no.5:42-54 '63. (MIRA 17:1)

1. Institut geologicheskikh anuk AN KazSSR, Alma-Ata i Kazakhskiy gidro-geologicheskiy trest, Alma-Ata.

SHEYGINA, V.F.

Underground subsurface flow from the northern slopes of the Trans-Ili Alatau and its role in the replenishment of the underground waters of alluvial fans. Izv. AN Kazakh. SSR. Ser. geol. 21 no.4:48-62 Jl-Ag '64. (MIRA 17:11)

1. Institut geologicheskikh nauk AN KazSSR imeni Satpayeva, Alma-Ata.

1. GODNEV, T. N., SHLYK, A. A., TRET'YAK, N. K.

2. USSR (600)

4. Phosphorus

7. Role of phosphor in the structure of choloroplast. Dokl. AN SSSR, 87, No. 3, 1952

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

SHLYK, A. A.

Chem Abs
V.48: 25Jan54

Botany

(2)

Glucose as the raw material for synthesis of assimilating pigments of plants. T. N. Godnev and A. A. Shlyk. *Doklady Akad. Nauk S.S.S.R.* 91, 599–600(1953).—A review on possible mechanisms of formation of plant pigments like chlorophyll is given with 7 references. It was shown that monoses are the raw materials for formation of pigments like chlorophyll and carotenoids. Etiolated leaves of the onion were treated with C^{14}-labeled glucose and the leaves were illuminated until green color formed. The chlorophyll and carotenoid content of such leaves contained considerable concn. of radioactive C. The labeled glucose was prepd. photosynthetically in tobacco leaves.
G. M. Kosolapoff

SHLYK, A. A.

"The Use of the Tracer Atom Method to Investigate the Chemistry of Chlorophyll Synthesis in Nature." Cand Chem Sci, Department of Physicomathematical and Technical Sci, Acad Sci Belorussian SSR, 19 Nov 54. (SB, 6 Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No.521, 2 Jun 55

SHLYK, A A

USSR/Physical Chemistry - Kinetics. Combustion. Explosives. Topochemistry. Catalysis, B-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61080

Author: Pavlyuchenko, M. M., Shlyk, A. A.

Institution: None

Title: Kinetics of Oxidation of Powdery Copper with Oxygen

Original Periodical: Uch. zap. Belorussk. un-ta, 1954, No 20, 60-70

Abstract: Study of oxidation of powdery Cu at 130°-260°. At 130°-150° kinetics of the reaction is defined by the equation $x = kt^{1/2}$ where x - depth of Cu_2O layer at the point of time t; k - velocity constant. At 175°-260° oxidation of Cu occurs in 2 stages: during the first 30 seconds up to 20-50% of all the Cu are oxidized; thereafter over several hours ~5% Cu are oxidized; the kinetics satisfies the equation $x = k'(t_o + t)^{1/2}$ where t_o is constant. On increase of Po_2 from 146 to 700 mm hg the nature of kinetic curves is not changed but the amount of Cu oxidized in the first stage increases. On

Card 1/2

Shlyk, A. A.

Participation of glucose in the formation of the phorbin and the phytol components of the chlorophyll molecule. T. N. Godnev and A. A. Shlyk. *Doklady Akad. Nauk S.S.S.R.*, 94, 301–4(1954).—Introduction of C^{14}-labeled glucose (produced by growing tobacco plants in $C^{14}O_2$-enriched atm.) into etiolated onion leaves, followed by strong illumination of the leaves, resulted in introduction of C^{14} activity into the pigments of the onion leaf; the activity (based on original level in glucose taken as 100%) was 0.69% in chlorophyll, 0.25% in xanthophyll, and 0.86% in carotene, which were sepd. chromatographically. Hydrolysis of chlorophyll with 30% KOH in MeOH showed that its C^{14} activity was distributed in the ratio of 34.8% in the phytol and 60.8% in the chlorophyllin parts of the structure. The transition from protoporphyrin to protochlorophyll is believed to consist of closure of the iso-ring between the γ-C atom of the porphine and α-C atom of propionic acid in position 6 of the 3rd pyrrole ring, with oxidation of the β-C atom in this side chain, and finally with hydrogenation of the vinyl group in position 4. The possibility of formation of protoporphyrin from glucose has been considered earlier; the biosynthesis of phytol is also believed to arise principally in glucose or a monose. The phorbin fragment appears to utilize material originating to the extent of some 75% from glucose, the rest arising from glycine, as Me ester. G. M. Kosolapoff

Institute of Biology Acad. Sci. USSR

SHLYK, A.A.

"On Experimental Features of the Tracer Atom Method," edited by A. A. Imshenetskiy, Corresponding Member, Academy of Medical Sciences USSR, Moscow, Publishing House of the Academy of Sciences USSR, 1955, 239

Sum 1467

B

COUNTRY : USSR
CATEGORY : General Biology.
Physical and Chemical Biology.
ABS. JOUR. : RZhBiol., No. 5, 1959, No. 18987

AUTHOR : Shlyk, A. A.
INST. : AS USSR.
TITLE : The Experimental Characteristics of the Labeled Atom Method.

ORIG. PUB. : V sb.: Isotopy v mikrobiologii. M., Izd-vo AN SSSR, 1955, 234-238
ABSTRACT : No abstract.

Card: 1/1

SHLYK, A.A.; GODNEV, T.N., akademik, redaktor; ALEKSANDROVICH, Kh., tekhnicheskiy redaktor

[Tagged atom method of studying the biosynthesis of chlorophyll] Metod mechenykh atomov v izuchenii biosinteza klorofilla. Minsk, Izd-vo Akademii nauk BSSR, 1956. 298 p. (MLRA 9:11)

1. Akademiya nauk BSSR (for Godnev)
(CHLOROPHYLL) (RADIOACTIVE TRACERS)

USSR/Plant Physiology. Photosynthesis I

Abs Jour : Ref Zhur-Biol., No 13, 1958, 58177

Author : Shlyk A. A., Godnev T. N., Totfarb R. M., Lyakhnovich Ya. P.

Inst : Institute of Biology, Belorussian SSR

Title : On the Correlation Between the Biosynthesis of Chlorophyll a and Clorophyll b During the Restoration Process

Orig Pub : Byul. In-ta biol., AN BSSR, No 2, 1956, (1957), 59-64

Abstract : Nicotiana alata, Syringa valgaris, and Ceratophylium demersum plants were kept for a period of 24 hours in an atmosphere containing $C^{14}O_2$. The specific radioactivity of chlorophyll a, purified by double chromatography on glucose and paper, was found to be three times as high as

Card 1/2

USSR/Plant Physiology. Photosynthesis I

Abs Jour : Ref Zhur-Biol., No 13, 1958, 58176

Abstract : absorbed by the leaves was established. Before the flowering phase tne quantity of chlorophyll and of photosynthetic activity in the leaf increased. After the flowering, photosynthetic activity in the leaf continued to increase, but the quantity of chlorophyll declined. The photosynthetic activity in the leaf depended on the degree of chlorophyll restoration which was determined by the degree of correlation of total radioactivity of the chlorophyll and its quantity. Chlorophyll b was restored with grater energy than chlorophyll a. As the leaf grew older the decomposition of chlorophyll increased as a result of the intensification of the energy with which chlorophyll molecules were restored. With the unset of time and the phase of final decomposition, each unit of chlorophyll exhibited a maximal photosynthetic activity.

Card 2/2

USSR/ Plant Physiology. Photosynthesis I

Abs Jour : Ref Zhur-Biol., No 13, 1958, 58177

Abstract : that of chlorophyll b. This difference was retained for some time, a fact which pointed to the absence of a rapid conversion of one chlorophyll into the other in the plant. The distribution of $C^{14}O_2$ in the different parts of the molecules of the two chlorophyll components was basically equal. The somewhat relatively greater activity of the phytol of chlorophyll b can apparently be explained by the slight interchange of the more radioactive phytol of chlorophyll a with the less radioactive phytol of chlorophyll b.

Card 2/2

SHLYK A.A.

USSR/Physiology of Plants - Photosynthesis. I-1

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10351

Author : Shlyk, A.A., Godneu, T.N., Rotsharb, R.M., Lyakhnovich, Ya.P.

Inst : -

Title : A Study of the Biosynthesis of Two Chlorophyll Components in the Process of Restoration.

Orig Pub : Vestsi Akad Nauk BSSR, Ser. Biyal. n., 1956, No 3, 91-94

Abstract : When $C^{14}O_2$ is assimilated in leaves, whether they are separated from the plant (as in tobacco) or not separated (lilac and aquatic plant (Ceratophyllum demersum)), the specific activity of chlorophyll-a (determinable by a B-type device) is approximately three times greater than that of chlorophyll-b. There was no rapid reciprocal conversion of elements of the chlorophyll. Bibliography of eight titles.

Card 1/1

SHLYKH, A. A. and GODNEV, T. N. (Minsk)

"Relation Between Biosynthesis of Chlorophyll and Carotinoid."

paper presented at the Intl. Conference on Radioisotopes in Scientific Research in Paris, 19-20 Sept 1957.

Angewandte Chemie, No. 3, 1958.

SHLYK, A.A.; GODNEV, T.N.; ROTFARB, R.M.; LYAKHNOVICH, Ya.P.

Interrelationship of the biosynthesis of chlorophyll a and chlorophyll b in the restoration process. Biul. Inst. biol. AN BSSR no.2:59-64 '57. (MIRA 11:2)

(Chlorophyll)

SH[illegible]YK, A.A.; GODNEV, T.N.; LYAKHNOVICH, Ya.P.; ROTFARB, R.M.; YUNEVICH, V.I.

Studying the restoration of chlorophyll components during its accumulation. Biul. Inst. biol. AN BSSR no.2:65-71 '57. (MIRA 11:2)
(Chlorophyll)

SHLYK

GODNEV, T.N.; SHLYK, A.A.; LYAKHNOVICH, Ya.P.

Final stage in the formation of chlorophyll. Biul. Inst. biol. AN BSSR no.2:79-84 '57. (MIRA 11:2)

(Chlorophyll)

GODNEV, T.N.; SHLYK, A.A.; LYAKHNOVICH, Ya.P.

Reaction of the transformation of protochlorophyll into chlorophyll [with summary in English]. Fiziol. rast. 4 no.5:393-396 S-O '57. (MIRA 10:11)

1. Institut biologii AN BSSR, Minsk.
(Protochlorophyll) (Chlorophyll)

AUTHOR SHLYK, A.A., Member of the Academy of Science of the Bjelo-Russian SSR.
GODNEV T.N., ROTFARB, R.M. and LYAKHNOVICH, Ya.P.

TITLE On the particular Features of Biosynthesis of the two Chlorophyll Components in the Process of Renewal. (Ob osobennostyakh biosinteza dvukh komponentov chlorofil-la v protsesse obnovleniya.- Russian)

PERIODICAL Doklady Akademii Nauk SSSR 1957, Vol 113, Nr 6, pp 1324-1327 (U.S.S.R.)

ABSTRACT In earlier works, where the formation scheme of chlorophyll was suggested, the authors had not touched the problem of the corelation between the components a and b of biosynthesis. The fact that at first with greening only chlorophyll a develops makes the scheme IV (Ill. 1) improbable and points more in the direction of a consecutive formation of one of these pigments from the other according to scheme III. This phenomenon can easily be explained by means of scheme I and scheme II. During the study of chlorophyll renewal by means of marked C^{14} the authors obtained proof of new deve-lopments which are based on already green leaves and not with ethiolated leaves which only began to green. The investigation

20-6-39/59

On the particular Features of Biosynthesis of the two Chlorophyll Components in the Process of Renewal.

(2 Illustrations, 3 Tables, 5 Slavic references.)

ASSOCIATION: Biologic Institute of the Academy of Science of the USSR. (Biologicheskiy institut Akademii nauk SSSR)

PRESENTED BY: -
SUBMITTED: 17.9. 1956
AVAILABLE: Library of Congress.

CARD 3/3

MASHTAKOV, S.M., prof., doktor biolog.nauk, otv.red.; GODNEV, T.N., akademik, red.; TERENT'YEV, V.M., kand.biolog.nauk, red.; SHLYK, A.A., kand. khimicheskikh nauk, red.; BULAT, O., red.izd-va; TIKHANOVICH, K., tekhred.

[Biochemistry and physiology of plants; collection of scientific works] Biokhimiia i fiziologiia rastenii; sbornik nauchnykh rabot. Minsk, Izd-vo Akad. nauk BSSR, 1958. 295 p. (MIRA 12:1)

1. Akademiya nauk Belorusskoy SSR, Minsk. Institut biologii.
2. AN Belorusskoy SSR (for Godnev).
(Biochemistry) (Botany--Physiology)

SHLYK, A.A.; PRUDNIKOVA, I.V. [Prudnikava, I.V.]

Kinetic features of the extraction of chlorophill from leaves with nonpolar solvents. Vestsi AN BSSR. Ser.biial.nav. no.3:16-21 '58. (MIRA 11:11)

(Chlorophyll) (Extraction (Chemistry))

SHLYK, A.A.; LYAKHNOVICH, Ya.P.; KALER, V.L.; LIPSKAYA, G.A.

Relation of chlorophyll replacement to photosynthesis. Biul. Inst.biol.AN BSSR no.3:106-110 '58. (MIRA 13:7)
(CHLOROPHYLL) (PHOTOSYNTHESIS)

SHLYK, A.A.; LYAKHNOVICH, Ya.P.; KALER, V.L.; LIPSKAYA, G.A.

Discrimination of chlorophyll molecules during disintergration in an aging plant. Biul.Inst.biol.AN BSSR no.3:111-114 '58. (MIRA 13:7)

(CHLOROPHYLL)

SHLYK, A.A.; ROTFARB, R.M.; LYAKHNOVICH, Ya.P.

Criteria for the radiochemical purity of chlorophyll. Biul.Inst. biol.AN BSSR no.3:115-120 '58. (MIRA 13:7)
(CHLOROPHYLL)

USSR/Plant Physiology. Photosynthesis

Abs Jour : Ref Zhur - Biol., No 19, 1958, No 86605

Author : Sodnev T.N., Shlyk A.A., and Lyakhnovich Ya.P.
Inst : Institute of Biology, AS Belorussian SSR
Title : On the Reaction of the Transition of Photochlorophyll to Chlorophyll

Orig Pub : Fiziol. Rasteniy, 4, No 393-396 -1957

Abstract : Study of spectral properties of the pigment extracted with 0.02 M solution of KOH from the ester extract of 10-day ethiolated leaves of barley after 1-60 minutes of exposure to light at a temperature of -5 to 10 degrees C. Only after short-time exposure to light at reduced temperatures did there form a pigment analogous to chlorophyllide A and with an absorption maximum at 660 millimicrons in the red part of the spectrum and 402 millimicrons in the violet part of the spectrum. According to the authors' hypothesis, the normal predecessor of chlorophyll is monomethyl ester of magnesium-vinyl-pheoporphyrin A5, which undergoes a 2-phase transformation: hydration for double bond 7-8 into chlorophyllide A and

Card : 1/2

USSR/Plant Physiology. Photosynthesis

Abs Jour : Ref Zhur - Biol., No 19, 1958, No 86605

subsequent esterification by phytol. The study was executed in the Institute of Biology AS Belorussian SSR. -- B.Ye. Dravtsova

Card : 2/2

GODNEV, T.N.; SHLYK, A.A.; ROTFARB, R.M.

Chlorophyl synthesis in angiosprems in darkness [with summary in English]. Fiziol.rast. 6 no.1:36-41 Ja-F '59. (MIRA 12:2)

1. Biology Institute, Byelorussian S.S.R. Academy of Sciences, Minsk.
(Chlorophyll) (Plants, Effect of light on)

KALER, V.L.; SHLYK, A.A.

Isolation of protochlorophyll from green leaves. Vestsi AN BSSR. Ser.biial.nav. no.2:133-136 '60. (MIRA 13:7)
(CHLOROPHYLL) (PLANTS--CHEMICAL ANALYSIS)

SHLYK, A.A.; GAPONENKO, V.I.; KUKHTENKO, T.V.

Chlorophyll renewal in the absence of growth. Biul. Inst. biol. AN BSSR no.5:131-137 '60. (MIRA 14:7)
(CHLOROPHYLL)

SHLYK, A.A.; LYAKHNOVICH, Ya.P.; GAPONENKO, V.I.; PRUDNIKOV, I.V.; KALER, V.L.

Relation between the specific activity of chlorophyll a and b during the initial stages of renewal. Biul. Inst. biol. AN BSSR no.5:138-140 '60. (MIRA 14:7)

(CHLOROPHYLL)

SHLYK, A.A.; KALER, V.L.

Nature of protochlorophyll of pumkin seeds and its relationships with the pigments of green leaves. Biul. Inst. biol. AN BSSR no.5:141-148 '60. (MIRA 14:7)
(CHLOROPHYLL) (LEAVES) (PUMPKIN SEED)

SHLYK, A.A.; GAPONENKO, V.I.; KUKHTENKO, T.V.

Spectral properties and nature of chlorophyll a'. Dokl.AN BSSR 4 no.9:393-397 S '60. (MIRA 13:9)

1. Laboratoriya biofiziki i izotopov AN BSSR. Predstavleno akad. AN BSSR T.N. Godnevym.
(Chlorophyll)

GODNEV, T.N.; ROTFARB, R.M.; SHLYK, A.A.

Biosynthesis of phytol by angiosperm seeds in dark. Fiziol. rast. 7 no.1:81-82 '60. (MIRA 13:5)

1. Institute of Biology, B.S.S.R. Academy of Sciences, Minsk. (Phytol)

SHLYK, A.A.; GAPONENKO, V.I.; PRUDNIKOVA, I.V.; KUKHTENKO, T.V.; LYAKHNOVICH, Ya.P.; KALER, V.L.

Comparative study of the renewal of chlorophyll in different parts of the plant. Fiziol. rast. 7 no.6:625-637 '60. (MIRA 14:1)

1. Laboratory of Biophysics and Isotopes, Byelorussian S.S.R. Academy of Sciences, Minsk.
(Chlorophyll)

SHLYK, A.A.; KALER, V.L.; PODCHUFAROVA, G.M.

Protochlorophyllide in green leaves exposed to light.
Dokl.AN SSSR 133 no.6:1472-1475 Ag '60.
(MIRA 13:8)

1. Laboratoriya biofiziki i izotopov Akademii nauk BSSR g.Minsk. Predstavleno akad. A.P.Vinogradovym.
(Chlorophyll)
(Plants, Effect of light on)

SHLYK, A. A. (Dr.) (USSR)

"Study of Chlorophyll Metabolism by Means of Tracer Method."

report to be submitted for the Photosynthesis Symposium, 5th Intl. Congress of Biochemistry, Moscow, 10-16 Aug 1961.

SHLYK, A. A., KALER, V. L., and PODCHUFAROVA, C. M. (USSR)

"Protchlorophyllide in the Green Plant."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

SHLYK, A. A., and GODNEV, T. N. (USSR)

"Biosynthesis and Regeneration of Chlorophyll in Connection with Photosynthesis."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

SHLYK, A.A.; MASHENKOV, V.A. [Mashankou, V.A.]; NIKOLAYEVA, G.N. [Nikalaeva, H.N.]; PRUDNIKOVA, I.V. [Prudnikava, I.V.]; KUKHTENKO, T.V. [Kukhtsenka, T.V.]

Investigating the reaction of alkaline splitting of chlorophyll method of studying the localization of tagged carbon. Vestsi AN BSSR. Ser. biial. nav. no.3:37-46 '61. (MIRA 14:10)
(CHLOROPHYLL)

SHLYK, A.A.; NIKOLAYEVA, G.N.; VLASHOK, L.I.; GODNEV, T.N.

Chlorophyllide formation in the extraction of chlorophyll from green leaves with aqueous acetone. Dokl. AN BSSR 5 no.8:364-368 Ag '61. (MIRA 14:8)

1. Laboratoriya biofiziki i izotopov AN BSSR, Institut biologii AN BSSR.
(Chlorophyll) (Extraction (Chemistry))

SHLYK, A.A.; FRADKIN, L.I.

Isotope-kinetic analysis of the possibility of successive biosynthesis of chlorophylls a and b. Biofizika 6 no.4:424-435 '61. (MIRA 14:7)

1. Laboratoriya biofiziki i izotopov AN Belorusskoy SSR.
(CHLOROPHYLL)

SHLYK, A.A.; KUKHTENKO, T.V.

Kinetics of the specific activity of carbon contained in phytol and phorbin of chlorophylls a and b during the process of renewal. Fiziol.rast. 8 no.5:526-535 '61. (MIRA 14:10)

1. Biophysics and Isotopes Laboratory of Byelorussian Academy of Sciences, Minsk.
(Chlorophyll)

SHLYK, A.A.; KALER, V.L.; PODCHUFAROVA, G.M.

Study of protochlorophyllide accumulation and transformation in green plants by radiochromatography with a carrier. Biokhimiia 26 no.2:259-265 Mr-Ap '61. (MIRA 14:5)

1. Laboratory of Biophysics and Isotopes, Academy of Sciences of the Byelorussian S.S.R., Minsk.
(CHLOROPHYLL) (CHROMATOGRAPHIC ANALYSIS)
(CARBON--ISOTOPES)

SHLYK, A.A.; GAPONENKO, V.I.; KUKHTENKO, T.V.

The determining role of complete synthesis and breakdown of the molecule in the renewal of chlorophyll. Dokl. AN BSSR 6 no.3: 189-192 Mr '62. (MIRA 15:3)

1. Laboratoriya biofiziki i izotopov AN BSSR. Predstavleno akademikom AN BSSR T.N.Godnevym.

(CHLOROPHYLL)

GODNEV, T.N., akademik; SHLYK, A.A.

Work on photosynthesis in White Russia. Vest.AN SSSR 32 no.7:54-59 Jl '62. (MIRA 15:7)

1. Akademiya nauk Belorusskoy SSR (for Godnev).
(White Russia--Photosynthesis--Research)

3738
S/020/62/143/002/021/022
B144/B138

27.1170

AUTHORS: Shlyk, A. A., and Nikolayeva, G. N.

TITLE: Metabolic heterogeneity of chlorophyll in a plant

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 2, 1962, 460 - 463

TEXT: Combining of C^{14} tagged atoms by fractional extraction (1), chlorophyllase (2), and photodecolorization (3) was studied to confirm the hypothesis of metabolic heterogeneity of chlorophyll (CH). 1) Green leaves of sugar beet were exposed for 10 - 30 min to $C^{14}O_2$ and after an interval of 10 - 30 min subjected to fractional extraction by petroleum ether containing 0.5, 2, and 10 or 20% ethanol (extracts I-IV), and finally by a 1:1 ethanol-acetone mixture. Specific activity (SA) of extract I was twice as high as the almost equal SA of extracts II - IV. 2) Partial hydrolysis of CH by chlorophyllase was studied in beet leaves (repeated acetone treatment and centrifugation). Chlorophyllase mainly affects CH contained in young molecules, which is easily extractable. SA in extracts was reduced by ~1/6 compared with controls. 3) Clivia leaves were exposed

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S/020/62/143/002/021/022
B144/B138

Metabolic heterogeneity ...

for 20 - 120 min to $C^{14}O_2$, dissolved in 1/15 M K_2HPO_4, filtered, centrifuged, suspended in 1/15 M K_2HPO_4 and the filtrate diluted with glycerin (4 : 6). After separation of a control portion the rest of the homogenate was exposed for 1 - 2 hrs to 250.000 lux in an epidiascope. ~1/5 - 1/2 of CH was decolorized. Determination of SA again resulted in a reliable reduction. All three approaches prove that young CH molecules in green leaves are, at least partially, in a particular state and can be easily differentiated from old molecules; C^{14} was predominantly assimilated in them and their removal led to a SA reduction in the remaining pigment. This fact also proved the absence of exchange between young and old CH molecules. A difficult future task is the elucidation of the apparently lower metabolic heterogeneity of CH b, the SA of which is 5 - 18 times less than that of CH a. L. I. Vlasenok is thanked for assistance. There are 3 tables and 19 references: 13 Soviet and 6 non-Soviet. The four most recent references to English-language publications read as follows: A. A. Krasnovsky, Ann. Rev. Plant Physiol., 11, 363 (1960); C. S. French, J. Myers, Carnegie Inst. Wash. Year Book, 58, 323 (1959); Govindjee, E. Rabinowitch, Science, 132, 355 (1960); M. Holden, Biochem. J., 78, 359 (1961).

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...Izotopov Akademii nauk BSSR
...Biophysics and Isotopes of the Academy of ...nces BSSR)

37523

S/020/62/144/001/024/024
B117/B101

AUTHORS: Shlyk, A. A., and Stanishevskaya, Ye. M.

TITLE: Biosynthesis of chlorophyll b in green plants in the dark

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 1, 1962, 226-229

TEXT: Experiments were made with 5- to 8-day-old wheat plants to observe the synthesis of chlorophyll b in the dark. After illumination for 20-30 min in a chamber filled with $C^{14}O_2$ part of the plants were fixed with vapor (controls) and the remainder left in the dark for 1-4 days. In both cases, the specific activity of chlorophyll a and b was determined by a method described earlier (A. A. Shlyk, V. I. Gaponenko et al., Fiziol. rast., 7, 625 (1960)). The specific activity of chlorophyll b had increased in the dark by a multiple. As the increase was established in general as well as in the phorbin and phytol fractions of the chlorophyll, the biosynthesis of the whole chlorophyll b molecule in the dark was proved. Chlorophyll a can be used for checking the degree of darkening because its biosynthesis is inhibited by darkness in most higher plants including wheat, and thus its general activity is reduced. At the same time, its

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specific activity decreases. This can be explained by the fact that, when decomposing in the dark, the young chlorophyll a molecules that are formed in the chamber filled with $C^{14}O_2$ undergo conversion more readily than do old ones. In view of this observation and on the strength of earlier data (A. A. Shlyk, L. I. Fradkin, Biofizika, 6, 424 (1961)), the following pattern is suggested for the formation of chlorophyll b: $\longrightarrow a' \longrightarrow b$, $a' \dashrightarrow a''$.

For the time being the possibility of stimulating the conversion process in light cannot be ruled out. There are 4 tables.

ASSOCIATION: Laboratoriya biofiziki i izotopov Akademii nauk BSSR (Laboratory of Biophysics and Isotopes of the Academy of Sciences BSSR)

PRESENTED: December 7, 1961, by A. L. Kursanov, Academician

SUBMITTED: December 7, 1961

SHLYK, A. A. and NIKOLAYEVA, G. N.

"Manisfestations de l'heterogeneite de la chlorophylle dans le metabolisme des feuilles."

(The Existence of Metabolic Heterogeneity of Chlorpphylls in Vivo)

report presented at the Intl. Colloq uium on Photosynthesis, Gif-Sur-Yvette, France, 23-27 Jul 1962.

Shlyk, A. A. - Lab of Biophysics and Isotopes, Acad. Sci. Belorussian SSR

GODNEV, T.N.; SHLYK, A.A.

[C^{14} in studying the biosynthesis of chlorophyll] C^{14} v izu-chenii biosinteza khlorofilla. Moskva, 1955. 12 p. (MIRA 15:10)

(Carbon--Isotopes) (Chlorophyll)

S/026/62/000/012/003/007
D036/D114

AUTHORS: Shlyk, A.A., Vlasenok, L.I., Stanishevskaya, Ye.M. and Nikolayeva, G.N.

TITLE: Light and the formation of chlorophyll in green foliage

PERIODICAL: Priroda, no. 12, 1962, 91-94

TEXT: The role of light in chlorophyll formation in green leaves is discussed. It is shown how regeneration of chlorophyll was proved by the marked atom method. V.L. Kaler and G.M. Podchufarova from the authors' laboratory extracted protochlorophyllide from leaves and showed that it is stored in darkness. Further tests showed that light is required only for converting protochlorophyllide into chlorophyllide, and not for phytol formation. Light is not needed in the conversion of chlorophyll "a" into chlorophyll "b". The existence of at least two types of chlorophyll "a", differing in spatial arrangement of their molecules, is ascribed by the authors to the continuity of the regeneration process. On the basis of experiments in extracting marked chlorophyll molecules with solvents of increasing polarity, they consider that the newly formed molecules combine

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into a structure of more labile form, thus making up for transition of the older molecules into some other state and perpetuating this form. It is considered that the two or more forms of chlorophyll are spatially sufficiently close to each other to enable transition of one molecule into another. It is thought that knowledge of the dynamic process of chlorophyll formation will provide a basis for controlling the photosynthetic activity of plants. There are 5 figures.

ASSOCIATION: Laboratoriya biofiziki i izotopov AN BSSR (Laboratory of Biophysics and Isotopes, AS BSSR), Minsk

SHLYK, A.A.; FRADKIN, L.I.

Rate of chlorophyll metabolism in green plants. Biofizika 7 no.3:281-291 '62. (MIRA 15:8)

1. Laboratoriya biofiziki i izotopov AN BSSR, Minsk.
(CHLOROPHYLL)

KALER, V.L.; SHLYK, A.A.

Change in the protochlorophyll content in the life process of green plants. Biokhimiia 27 no.4:599-607 Jl-Ag '62. (MIRA 15:11)

1. Laboratory of Biophysics and Isotopes, Academy of Sciences of the Byelorussian S.S.R., Minsk.
(PROTOCHLOROPHYLL) (PLANTS, EFFECT OF LIGHT ON)

SHLYK, A.A., STANISHEVSKAYA, Ye.M.

Biosynthesis of phytol in the dark by green barley plants.
Biokhimiia 27 no.6:984-992 N-D '62. (MIRA 17:5)

1. Laboratoriya biofiziki i izotopov AN Belorusskoy SSR, Minsk.

SHLYK, A.A.; NIKOLAYEVA, G.N.

Metabolic heterogeneity of chlorophyll in plants. Dokl. AN SSSR 143 no.2:460-463 Mr '62. (MIRA 15:3)

1. Laboratoriya biofiziki i izotopov AN Belorusskoy SSR. Predstavleno akademikom A.L.Kursanovym.
(CHLOROPHYLL)

SHLYK, A.A.; STANISHEVSKAYA, Ye.M.

Darkroom biosynthesis of chlorophyll-b in a green plant. Dokl. AN SSSR 144 no.1:226-229 My '62. (MIRA 15:5)

1. Laboratoriya biofiziki i izotopov AN BSSR. Predstavleno akademikom A.L.Kursanovym.
(Biosynthesis) (Chlorophyll)

SHLYK, A.A.; GAPONENKO, V.I.; KUKHTENKO, T.V.

Kinetics of C^{14} during the renewal of chlorophyll in barley and tobacco plants. Fiziol. rast. 9 no.5:521-533 '62. (MIRA 15:10)

1. Laboratory of Biophysics and Isotopes, Byelorussian S.S.R. Academy of Sciences, Minsk.
(Chlorophyll) (Carbon—Isotopes)

SHLYK, A.A. [Shlyk, A.A.]; LOSEV, A.P. [Losev, A.P.]

Distribution of C^{14} in chlorophyls a and b in etiolated leaves which have turned green. Vesti AN BSSR Ser. biial. nav. no.1: 21-33'63. (MIRA 16:9)

(CARBON ISOTOPES) (CHLOROPHYLL)

GONCHARIK, M.N. [Hancharyk, M.M.]; SHLYK, A.A.

Life dedicated to Soviet science. Vestsi AN BSSR Ser. biial. nav. no.2:115-131 '63 (MIRA 17:3)

SHLYK, A.A.; NIKOLAYEVA, G.N.

Metabolic manisfestation of the heterogeneity of chlorophyll in a green plant. Biofizika 8 no.2:201-211 '63. (MIRA 17:10)

1. Laboratoriya biofiziki i izotopov AN BSSR, Minsk.